

Elaine McCluskey

From: Elaine McCluskey [mccluskey@fnal.gov]
Sent: Monday, September 13, 2004 8:50 AM
To: Bill Foster; Chuck Federowicz; 'Dave Neuffer'; David Finley; Dixon Bogert; Duane Plant; Ed Crumpley; fgarcia@fnal.gov; Rich Stanek; Shekar Mishra; 'Steve Geer'; Tom Lackowski; Vic Kuchler; Weiren Chou
Subject: Notes from 9/10/04 Proton Driver Meeting

Attendees: Bill Foster, Duane Plant, Chuck Federowicz, Vic Kuchler, Elaine McCluskey, Dave Finley, Weiren Chou, Rich Stanek, Dave Neuffer, Dixon Bogert

Items discussed:

1. Drawings were reviewed for potential Neutrino Factory layouts inside the Main Ring. Prior views of this bent too hard – the presented version uses the 700m radius. Question of how the stacking ring was sized – Dave N said it was based on existing Booster. Bill thought it could be smaller. Also, location of stacking ring versus remaining tunnel was reviewed. Conclusion: put stacking ring on northwest side of new linac to be on same side as remaining tunnel. This is all that is to be done to complete this work.
CONCLUSION: NEUTRINO FACTORY AND FEL WILL FIT WITH LINAC PROTON DRIVER
2. Upgrades to MI: Weiren brought forth several concerns:
 - a. Dump downstream from injection point at MI: discussion included what length (25m?) this would be from the beamline, what power (20% of total, which might mean 30-50kW for PD), need to avoid MiniBooNE beamline, but probably go in same direction. Conclusion: still too many physics questions for civil construction to proceed with any sketches or estimates, but this needs to be included in cost
 - b. New RF for MI: Purpose is to increase ramping speed. One possibility is to build a new RF building at MI30 similar to MI60, since there are still straights available there, even with construction of MI31 and electron cooling. Would be same length as MI60, but maybe not as wide. Additional work may have to be done at MI60, too. Elaine and Dixon will talk with John Reid about this, plus review MI60 drawings to decide how much might be built around MI30.
 - c. Dave Finley asked if the CD0 report needs to include MI Upgrades. Bill said that there's a need to document the costs, but he hoped to have this work done as a separate project, not with PD.
3. Exiting: Elaine indicated SNS has 2 exits from Linac for 1000 ft, which is 500' travel distance. If we have 2100 ft Linac with 3 exits, that's similar. Conclusion: no further discussion of exiting from Linac is necessary - include 3 exits in costs.
4. Electrical planning: Elaine asked for backfeed and planning purposes, what will be running when PD is built? Bill said to assume everything running today would be kept running, as the most conservative approach. He said our basis should be for the 4MW power requirement.
5. Transport Line: Discussion of what we really know about length and orientation. Bill said more physics development is required. Weiren took information about civil criteria for alignment, and asked if alignment of Linac could be extended northeast if necessary. Agreed this was possible, as much as 700m. Weiren will be taking the lead on getting Transport Line better understood. Chuck will get Weiren information about MI10-MI12.

ACTION ITEMS:

Elaine to bring MI60 drawing to next meeting.
 Chuck to get information to Weiren about MI10-MI12.
 Chuck to complete work on Neutrino Factory as described above and then put this aside.

ITEMS FOR NEXT WEEK:

Cooling options will be discussed with Lee Hammond and Steve Krustulovich from FESS attending.

NEXT MEETING TO BE 9/15/04 AT 9:30 A.M. IN SMALL DINING ROOM.

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